

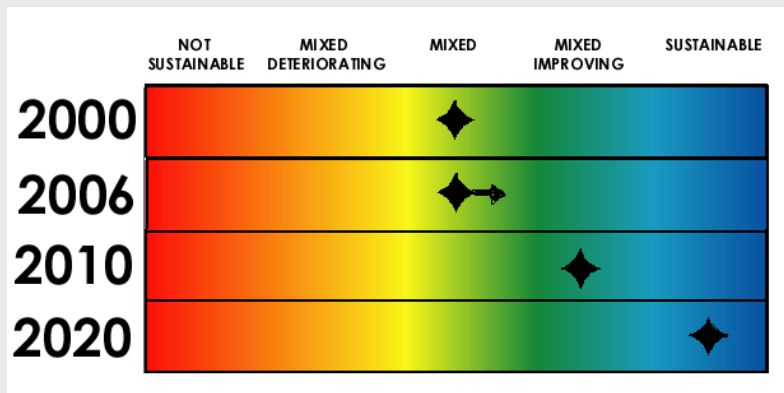
Subgoal 10

Is collaborative ecosystem management the basis for decision-making in the Lake Michigan basin?

Status

The environmental problems in the Great Lakes ecosystem have become increasingly complex over the years. The myriad of jurisdictions and programs with responsibility for the lakes is similarly complex. According to the 2003 Government Accountability Office report, the government presence overseeing Great Lakes resources includes two countries, multiple tribes, and First Nations, more than 140 Federal programs, and numerous city and state programs all dealing with environmental restoration activities. While these organizations have experienced individual opportunities for successes during the last 30 years, there has been no overarching strategy to deliver coordinated restoration and protection efforts in the future.

Lake Michigan Target Dates for Sustainability



In October 2003, the Great Lakes Governors identified nine critical environmental priorities for regional action. These were adopted by the Great Lakes mayors and the Great Lakes Commission. In May 2004, President Bush signed an Executive Order creating a Cabinet-Level Task Force to bring an unprecedented level of collaboration and coordination among, State, Federal, and local governments, Tribes, and other interests in the United States and Canada to accelerate protection and restoration of the Great Lakes. This led to the development and announcement of a series of recommendations in a final Great Lakes Regional Collaboration Report in December 2005.

Indicators (Proposed New State of the Lakes Ecosystem Indicators)

- Access to Information About the Great Lakes
- Value of Great Lakes to Basin residents

Challenges

- To develop a lake level framework for clear goals and objectives that facilitate coordinated actions among agencies and stakeholders in alignment with the Great Lakes Regional Collaboration
- To provide and facilitate opportunities for partnerships and leveraging resources

Next Steps

- Continue the development and linkage of local watersheds with basin-wide issues and activities through the watershed academy
- Coordination of LaMP and GLBTS efforts on PCBs and mercury
- LMMCC continues leadership role for collaborative monitoring in 2010
- Meet with the four Coastal Management programs to explore partnership opportunities

Major New Efforts Build on Lakewide Efforts

Since 1991, the states, tribes, and federal agencies in the Lake Michigan basin have been collaborating to restore and protect Lake Michigan through the Lakewide Management Process. New activities at Great Lakes wide scale may strengthen and enhance LaMP work.

In May 2004, President Bush signed Executive Order 13340 creating a cabinet-level Task Force to bring an unprecedented level of collaboration and coordination to accelerate protection and restoration of this national and internationally significant resource. Recognizing that effort to protect and enhance the ecosystem must go beyond the Federal government, the Executive Order also called for the convening of a Regional Collaboration of National Significance to facilitate collaboration among the federal Government, the Great Lakes states, local communities, tribes, and other interests in the region as well as Canada. The eight Strategy Teams that were formed closely followed the Lake Michigan LaMP goals adopted in 1998. They are as follows:

- Nonpoint Source Strategy Team
- Persistent Bioaccumulative Toxics (PBT) reduction Team
- Invasive Species Strategy team
- Habitat/Species team
- Areas of Concern Restoration/Sediments Strategy Team
- Indicators and Information Strategy Team
- Sustainable Development
- Coastal Health Strategy Team

This led to the development and announcement of a series of recommendation in a final Great Lakes Regional Collaboration Report in December 2005.

The Binational Executive Committee

The Binational Executive Committee (BEC) is charged with coordinating the implementation of the binational aspects of the 1987 Great Lakes Water Quality Agreement (GLWQA). The BEC is co-chaired by Environment Canada and USEPA, and includes members of the Great Lakes states, the Province of Ontario, and other federal departments and

Michigan and Indiana Cooperate in Developing the St. Joseph River Watershed Management Plan

The St. Joseph River watershed is part of two states, and multiple counties and municipalities.

Michigan and Indiana coordinated the development of a watershed management plan to ensure that planning in both states is coordinated to better protect and restore the environment.

It is a large-scale watershed plan for a bi-state watershed and included significant participation from the Indiana Department of Environmental Management (IDEM), Indiana watershed stakeholders, the Michigan Department of Environmental Quality (MDEQ), and Michigan stakeholders.



Both MDEQ and IDEM approved the watershed plan as meeting USEPA's 9 elements. It is a foundation for smaller subwatershed projects, as well as watershed-scale policy recommendations.

More information is available at: www.deq.state.mi.us/documents/deq-ess-nps-st-joe-planning.pdf and www.deq.state.mi.us/documents/deq-ess-nps-st-joe-supplemental.pdf.

agencies in Canada and the United States and tribes. The BEC addresses binational, basinwide issues of concern and provides strategic direction to the LaMPs, RAPs, and other Great Lakes programs such as the Binational Toxics Strategy, and the State of the Lakes Ecosystem Conference.

Great Lakes Binational Toxics Strategy

The Great Lakes Binational Toxics Strategy (GLBTS) was signed by the United States and Canada (The Parties) in 1997 to advance the goals of Article II(a) of the Great Lakes Water Quality Agreement, to "virtually eliminate" the discharge of persistent toxic substances (PTS) to the Great Lakes environment,

particularly those which bioaccumulate up through the food chain. The GLBTS sets forth seventeen (17) interim reduction goals for twelve "level 1" PTS over a ten year time-frame which ends in 2006.

In anticipation of this important milestone, in 2004, the Parties, working with many stakeholders from industry, non-governmental organizations, Provinces, States, Tribes, cities and academia, commenced an overall program review of each of the level 1 substances, to review progress made to date in reducing these substances and to explore future directions for the continued management of these substances. This report provides a concise summary of each substance review. This report also addresses two non substance specific goals in the GLBTS: 1) to assess atmospheric inputs of level 1 substances from world wide sources, and, 2) to complete or be well advanced in remediation of priority sites with contaminated bottom sediments in the Great Lakes Basin by 2006

The substance reviews include two major parts: 1) an overall environmental assessment of level 1 substances in the Great Lakes environment, including a review of current levels in Great Lakes media and biota, an evaluation of these levels against available health based/risk based criteria, historical trends and projected trends looking forward; and, 2) a source reduction assessment that looks at use and emission reductions accomplished to date under the GLBTS against the original targets, as well as an analysis of the remaining source sectors, and further opportunities for the GLBTS and others to continue to effect reductions toward our ultimate goals of virtual elimination. Finally, these reviews provide recommendations to the Parties for the future management of each level 1 substance.

General Outcomes

Overall, the environmental analyses show many of the level 1 substances remain in the Great Lakes environment at levels which exceed health based criteria, particularly mercury, PCBs, and the cancelled pesticides. These substances continue to impair the Great Lakes, and limit fish consumption, particularly among sensitive populations such as pregnant women and children, and among and indigenous fishers, such as many of the Tribes and First Nations.

With regard to source reductions, much progress has been made to date. Of seventeen reduction goals,

Great Lakes and St. Lawrence Cities Initiative

Mayors of several cities around the Great Lakes created the Great Lakes and St. Lawrence Cities Initiative in July 2003. The Initiative is a binational coalition of mayors and other local officials that works actively with federal, state, and provincial governments to advance the protection and restoration of the Great Lakes. Chaired by Chicago Mayor Richard Daley and headquartered in Chicago, is a project funded through the Northeast-Midwest Institute.

The Initiative enables mayors and other local officials to be active participants in Great Lakes issues relating to governance, economics, and science. The Initiative has been a vehicle for mayoral participation in a variety of Great Lakes efforts where mayors have not had a coordinated voice. It provides the active forum that allows mayors to coordinate their activities in meeting their stated goals in preserving the Great Lakes and enhance public and environmental health as well as the economic prosperity of all Great Lakes communities. The Mayors played an active role in the Great lakes regional Collaboration.

More information is available at: www.nemw.org/glci.

Building Collaborative Efforts in the Lake Michigan and Great Lakes Watersheds

Collaboration among a variety of stakeholders to improve the Lake Michigan ecosystem continues to increase since LaMP 2000. This chapter documents several of these collaborative activities. Some of the collaborative efforts include:

- The Great Lakes Regional Collaboration: www.glrc.us
- The Binational Executive Committee
- Great Lakes Binational Toxics Strategy: www.epa.gov/glnpo/p2/busintro.html
- The Great Lakes Human Health Network
- The Great Lakes Fishery Commission: www.glfsc.gov
- Shared goals project involving USEPA Region 5 and state water quality programs, www.epa.gov/region5/watergoals.htm
- The 2002 Wingspread Accord into the Watershed Academy
- The Great and St. Lawrence Cities Initiative: www.nemw.org/glci
- The Great Lakes Legislative Caucus
- Council of Great Lakes Governors: www.cglg.org
- Great Lakes Commission: www.glc.org



The Lake Michigan Toolbox

NIPC Releases Framework Plan with Tools for Officials and Planners

The Northeastern Illinois Planning Commission released its "2040 Regional Framework Plan". It provides a series of tools for local elected officials and planners to aid land-use decisions. The plan is the culmination of an extensive public-involvement process that included 200 workshops where 4,000 participants expressed their vision of how the region should address growth through the year 2040. NIPC's "Common Ground" process engaged these communities' residents, elected officials, planners, developers and other stakeholders, who expressed five top priorities for 2040 on behalf of the region:

- We want livable communities.
- We want a region that views the diversity of its people as an asset.
- We want a healthy natural environment.
- We want a regional economy that is competitive globally.
- We want governments to collaborate at the local and regional levels.

The 2040 Plan describes 17 implementation strategies that require close partnership at the regional and local levels. They include steps toward achieving a balance between jobs and housing, promoting alternative modes of travel such as walking and biking, sustaining the water supply from Lake Michigan and other sources, preserving farmland and other strategies.

Lake Michigan Watershed Academy Phase II Activities

- **Northwest Indiana Regional Planning Commission:** Hosted a September 2005 Best Management Practices Tour of the region by Bus and created a Water Conservation and Protection Toolkit with a grant from the Joyce Foundation.
- **Northeastern Illinois Planning Commission:** Developing a web site for the Lake Michigan Watershed Academy to highlight work around the basin
- **East Central Wisconsin Regional Planning Commission:** Held mini-workshops on pollutant loadings analysis along Lake Winnebago using the L-THIA land use change model and shared this information with local officials and citizens
- **Michiana Council of Governments:** Performed outreach to local and county plan commissions, zoning boards and economic development boards- collection of packet of educational tools
- **Southeastern Wisconsin Regional Planning Commission:** Held Third Annual Watershed Planning Conference- March 3, 2006 attracting 430 participants
- **The Bay-Lake Regional Planning Commission:** Held a series of mini-conferences to discuss stormwater management beyond detention ponds and using low impact development for economic gains; planning for eco-tourism and the economic benefits of the Great Lakes; and thinking of creative solutions to runoff pollution and dealing with phosphorus loading to the soil and waterways.
- **West Michigan Shoreline:** Gave presentations directed towards the local elected officials and planning commissions of the governmental units in Muskegon County, describing Smart Growth principles and providing tools on how to make sound land use decisions
- **Northwest Michigan Council of Governments:** Held two follow up workshops with local officials and municipal staff, focusing on implementation of joint planning at the watershed scale.
- **South Central Michigan regional Planning Commission:** Developing planning, zoning and site plan modules (a self-help and training manual) for use by (and for) municipalities to address the current inadequacies of regulating land use as a contributor to non-point source pollution.

See page 9-2 for more information on the Academy.



The Lake Michigan Toolbox

NIRPC Releases Water Conservation and Protection Toolkit

The Northwest Indiana Regional Planning Commission released a **Water Conservation and Protection Toolkit**. The toolkit consists of a series of fact sheets that provide overviews of the specific water resource protection and conservation issues. It also identifies a series of resources saved on a CD that assists people, local governments, and developers in making choices that better protect, conserve, and sustain local water resources.

Addressing water resources problems associated with a developing area requires addressing them comprehensively. This means:

- Protecting water resources from pollution and making sure that water sources are not pumped dry;
- Conserving water resources; and
- Restoring and improving water resources so that quality, quantity, flow, and timing align more closely with the natural water cycle.

Overview Issues

- What is Water Use and Availability in Lake, Porter, and LaPorte Counties in Northwest Indiana?
- The Great Lakes Charter Annex and Protecting, Conserving, Restoring, and Improving Water Resources

Fact Sheets for Local Officials

- How Can Stormwater Management Protect and Conserve Water Resources?
- How Can Sourcewater Protection Conserve and Protect Water Resources?
- How Can Land Use Planning And Zoning Protect And Conserve Water Resources?
- What Conservation Requirements Can Protect Water Resources?
- How Does Better Site Planning Protect and Conserve Water Resources?

Fact Sheets for Developers and the Public

- How Can Homeowners Protect and Conserve Water Resources?
- How Can Watershed Planning and Assessment Protect and Conserve Water Resources?

Many of the resources identified in the NIRPC toolkit, are reproduced in the Lake Michigan Toolbox resources throughout LaMP 2006. More information is available at www.nirpc.org.

ten have been met, three more will be met by 2006, and the remaining four will be well advanced toward their respective targets. Notwithstanding these accomplishments, much remains to be done to achieve the ultimate goal of virtual elimination in the Great Lakes.

Analyses suggests that significant source reduction opportunities remain for the "active substances" (i.e., substances for which we have ongoing workgroup activities), which include mercury, PCBs, dioxins and furans, HCB and B(a)P). With respect to the "inactive" (i.e., no ongoing workgroup activity) level 1 substances, cancelled pesticides, alkyl lead, and

OCS, the Parties have decided to suspend GLBTS workgroup activities indefinitely, pending periodic review, and to defer to other programs, as appropriate. However, these substances will continue to be tracked and monitored in the Great Lakes. Finally, the GLBTS will continue to monitor and report on progress of sediment remediation activities in Areas of Concern in the Great Lakes basin, and will continue to study issues associated with long-range transport of toxic substances from world-wide sources, in order to better inform our priorities moving forward.

Conclusions

The GLBTS presents a unique model of how international cooperation and collaborative problem solving of issues that are beyond the reach of regulations, can lead to real results in environmental protection. There may be an important ongoing role for the GLBTS, not only with respect to the current level 1 substances, but also for newer chemicals of emerging concern. The Parties intend to focus on next steps for the GLBTS in the coming months. Protecting the chemical integrity of the Great Lakes, advancing the goals of the Great Lakes Water Quality Agreement, and virtually eliminating PTS from the Great Lakes basin are of paramount importance. The GLBTS may be one important tool to move us toward these goals.

Great Lakes Water Quality Agreement

The Canada-United States Great Lakes Water Quality Agreement (GLWQA), first signed in 1972 and renewed in 1978, expresses the commitment of each country to restore and maintain the chemical, physical and biological integrity of the Great Lakes Basin Ecosystem and includes a number of objectives and guidelines to achieve these goals. It reaffirms the rights and obligation of Canada and the United States under the Boundary Waters Treaty and has become a major focus of International Joint Commission (IJC) activity.

The IJC is an independent binational organization established by the Boundary Waters Treaty of 1909. Its purpose is to help prevent and resolve disputes relating to the use and quality of boundary waters and to advise Canada and the United States on related questions. It has oversight to the implementation of the GLWQA.

The 1972 Agreement set general and specific water quality objectives and called for programs to meet them. It gave priority to point-source pollution from industrial sources and sewage plants. Point-source pollution was dramatically reduced and many visible and noxious pollution problems were alleviated by regulatory programs like the Clean Water Act.

In 1978, the two governments replaced the 1972 Agreement with a new agreement. The 1978 Agreement built upon the foundation established in

Coastal America

Coastal America is a federal agency partnership to protect coastal habitat in the United States. It engages in a range of activities nationwide. It has begun to work in the Lake Michigan basin on several activities.



Corporate Wetlands Restoration Partnership

The Corporate Wetlands Restoration Partnership is a collaborative effort led by Coastal America between the federal government, state agencies and private corporations and non-

profits to restore wetlands across the country. Companies contribute funds and services to match funding for aquatic habitat restoration, education and



research projects. To date, over 225 corporations, 13 Federal agencies, over 125 non-governmental partners, including The Nature Conservancy, Chesapeake Bay Foundation, Atlantic Salmon Commission, Ramsar Secretariat and several foundations have partnered with the program.

Coastal America Activity in the Lake Michigan Basin

There has been preliminary activity in Illinois and Wisconsin for this program. In October of 2004 the Shedd Aquarium became the first Coastal America Ecosystem Learning Center in the Great Lakes. As part of that partnership program, Chicago's Shedd Aquarium, USFWS, IL/IN Sea Grant and Purdue sponsored a new exhibit on Great Lakes Invasive species.

the earlier Agreement, as well as new information from scientists both in and out of government. It shifted the focus from conventional pollutants, such as phosphorus and bacteria, to toxic and hazardous polluting substances. Persistent toxic substances remain in the environment for very long periods, can accumulate in living organisms, and can have serious impacts on the health of wildlife and humans. Through the 1978 Agreement, the two countries adopted a policy that the discharge of any or all

The Great Lakes Charter Annex Process

The Great Lakes Sustainable Water Resources Agreement was developed by the Great Lakes Governors and Premiers as a vehicle to more effectively protect, conserve, restore, and improve the water and water dependent natural resources of the Great Lakes. The agreements are a culmination of a multi-year process that involved, eight states, two provinces, and multiple stakeholder groups, all with varying viewpoints, but all with the ultimate goal of ensuring the sustainability of the Great Lakes.

During two review processes for drafts of the then-proposed agreements, the Council of Great Lakes governors, the states, and provinces received a combined 16,000 comments.

More information is available at the Council of Great Lakes Governors website at: www.cglg.org/projects/water/index.asp.

persistent toxic substances be virtually eliminated in the Great Lakes and international section of the St. Lawrence River. Timelines were then established for municipal and industrial pollution abatement and control programs.

The Agreement was amended in 1987 and added several new programs and initiatives to restore beneficial uses in open waters of the 5 lakes and in 43 of the most contaminated local areas in the basin. Conditions have improved significantly in a number of these local Areas of Concern (AOCs) and in the open waters of the lakes.

But now, despite considerable progress to date, new challenges are emerging while some old ones persist. What does this mean for the Agreement? Should it – or how should it – address issues like alien invasive species, population growth and urbanization, new chemical pollutants, climate change and human health.

The governments of Canada and the United States asked the IJC to seek the public's views on how well the GLWQA has worked so far and how effective it has been. In response, the IJC held public meetings in 14 Great Lakes and St. Lawrence cities in Fall 2005, wrapping up its consultations with a Web Dialogue. It also received comments from individuals and organizations by hand, mail, fax, phone, e-mail and online. More than 4000 individuals and organizations took part.

For more information about the Agreement, view or download the Guide to the Great Lakes Water Quality Agreement at: www.ijc.org/glconsultations.

Great Lakes Human Health Network

A Great Lakes-wide human health network was formed by the BEC to maximize resources and efficiencies of scale. The USEPA's GLNPO provides staff resources to facilitate the exchange of information and expertise among health and environmental agencies. The human health network brings together experts and agencies from throughout the basin to share information and provide technical assistance on human health issues for inclusion in the LaMP. Currently, the Network has representative from six federal government agencies, five tribal government agencies, eleven state and provincial government agencies, and one county government agency. The Network anticipates that the membership will continue to grow as the Network becomes more widely known. Current information on the Network and its work may be found at www.epa.gov/glnpo/health.html.

The Great Lakes Fishery Commission

The Great Lakes Fishery Commission (GLFC) is a critical partner in achieving a balanced and healthy fish community in Lake Michigan, both in terms of controlling exotic species and rehabilitating native species in the lake. GLFC has adopted and implemented an integrated management of sea lamprey (IMSL) approach to control sea lamprey in the Great Lakes. The IMSL process involves using a variety of control methods instead of relying solely on chemicals. For example, GLFC is reducing the minimum lethal concentrations of chemicals used to kill larval sea lampreys in order to protect young lake sturgeon and is scheduling chemical treatments later in the summer to reduce the effects on young lake sturgeon. GLFC has reduced chemical use by 50 percent compared to the amounts used in the 1990s.

GLFC is also using sterile-male releases to impede the reproductive success of sea lampreys, conducting mark-and-recapture studies with juvenile and adult sea lampreys to measure population trends, and researching other strategies to reduce populations of sea lampreys without harming other parts of the

ecosystem.

GLFC technical committees have also developed lakewide lake trout population models that estimate total allowable catches of lake trout, evaluate various fishery management strategies, and estimate damage by sea lampreys to lake trout populations.

Despite the great progress made, sea lampreys continue to kill many fish each year, threatening the restoration of lake trout to Lake Michigan. The principal challenge in controlling the sea lamprey and other exotic species in the lake lies in balancing the use of effective control measures for exotic species with preservation and restoration of native species.

Great Lakes Legislative Caucus Formed

State lawmakers from the eight states and two Canadian provinces that surround the Great Lakes

have formed a caucus to coordinate legislative action on Great Lakes issues. The group, comprised of lawmakers from the 10 states and provincial Legislatures, will serve as a clearinghouse for information, policies and coordination on issues such as beach closings, water diversion, and invasive species. The caucus focused its activities around aquatic nuisance species and the Great Lakes Charter Annex.

Next Steps

Over the next 2 years, the LaMP will support the following activities to increase collaborative activities:

- Continue the development and linkage of local watersheds with basin-wide issues and activities through the watershed academy
- Coordination of LaMP and GLBTS efforts on PCBs and mercury
- LMMCC continues leadership role for collaborative monitoring in 2010
- Meet with the four Coastal Management